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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/966,081

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Richard C. Rose

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08/24/2006

AT&T CORP.

ROOM 2A207

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BEDMINSTER, NJ 07921

EXAMINER

JACKSON, JAKIEDA R

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/966,081	Applicant(s) ROSE ET AL.	
	Examiner Jakieda R. Jackson	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 20, 2006 has been entered.

### ***Response to Amendment***

2. In response to the Interview on July 19, 2006, applicant submitted an amendment filed on July, 20, 2006, in which the Applicant amended claims 1, 8 and 14 to include the limitation of generating a plurality of lattices for received speech utterances associated with filling in a plurality of *user selected* data fields in a *user interface*. Applicant requested reconsideration with respect to amended independent **claims 1, 8 and 14**.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

- Paragraph 0003, the sentence beginning "The solve this problem", should be --To solve this problem--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 8 and 13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynar et al. (U.S. Patent No. 6,581,033), hereinafter referenced as Reynar in view of Haddock (USPN 5,983,187).

Regarding **claims 1, 8 and 14**, Reynar discloses a method, process and controller of rescoring the results of automatic speech recognition (ASR), hereinafter referenced as ASR method, comprising:

generating a plurality of lattices for received speech utterances with filling in a plurality of data fields (column 8, line 25 – column 9, line 20);

concatenating the plurality of lattices (concatenation process) into a single concatenated lattice (pieces combined into a larger lattice; column 8, lines 32-54); and

applying at least one language model (language model) to the single concatenated lattice in order to determine relationships between the plurality of lattices (column 8, lines 1-17 with lines 33-54), but does not specifically teach that the data fields are user selected in a user interface.

Haddock teaches a speech system comprising filing in a plurality of user selected data fields in a user interface (figure 1 with column 2, lines 49-63 and column 4, line 23-34), for storing and accessing speech data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar's method wherein it teaches filing in a plurality of data fields in a user interface, as taught by Haddock, to provide an interaction technique which allows structure and some content to be extracted, thus making it easier to review and integrate with other data (column 4, lines 35-43).

Regarding **claim 13**, Reynar discloses the ASR method wherein the controller is a network server (figure 1).

6. **Claims 2, 6-7, 9, 11 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynar in view of Haddock, as applied to claims 1, 8 and 14 above, and in further view of Thrasher et al. (U.S. Publication No. 2002/0052742), hereinafter referenced as Thrasher.

Regarding **claim 2**, Reynar in view of Haddock disclose the ASR method producing an n-best alternative list (Reynar; column 8, lines 51-54), but does not specifically teach generating a confidence score.

Thrasher discloses the ASR method comprising:

generating a confidence score (confidence measure; column 3, paragraphs 0035 and 0036) after applying the at least one speech recognition model (language model;

figure 2, element 110), to determine whether the plurality of lattices are acceptable (identify improperly identified, column 3, paragraphs 0035 and 0036).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in combination with Haddock method such that it generates a confidence score, to identify which patterns are most likely to have been improperly identified by the recognizer (column 3, paragraph 0035).

Regarding **claims 6, 9 and 16**, Reynar in view of Haddock disclose the ASR method, but lacks wherein the rescoring the automatic speech recognition is used in a mobile communications system.

Thrasher discloses the ASR method wherein the rescoring the automatic speech recognition is used in a mobile communications system, wireless communication (column 2, paragraph 0024), to relay information.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in view of Haddock's method such that the ASR is used in a mobile communications system, to provide the user with alternatives to the speech recognition output provided by the engine (column 1, paragraph 0002).

Regarding **claims 7 and 11**, Reynar in view of Haddock disclose the ASR method, but lacks wherein rescoring the automatic speech recognition is used in a satellite communications system.

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Thrasher discloses the ASR method wherein rescoring the automatic speech recognition is used in a satellite communications system (satellite dish; column 2, paragraph 0022), to relay information.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in combination with Haddock's method such that the ASR is used in a satellite communications system, to provide the user with alternatives to the speech recognition output provided by the engine (column 1, paragraph 0002).

7. **Claims 3-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynar in view of Haddock and Thrasher, as applied to claim 2, in further view of Waibel et al. (U.S. Patent No. 5,712,957), hereinafter referenced as Waibel.

Regarding **claim 3**, Reynar in view of Haddock and Thrasher, as applied to claim 2 above, disclose the ASR method of rescoring the results of automatic speech recognition, but lacks wherein the confidence score is compared to a predetermined value.

Waibel discloses the ASR method wherein the confidence score (confidence score) is compared to a predetermined value (predetermined threshold value) in order to determine whether to perform the automatic speech recognition process again (repeat again; column 1, lines 56-59), to avoid incorrect recognition.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in combination with Haddock and Thrasher's method such that the confidence score is compared to a predetermined threshold, as in Waibel, to repair misrecognition of speech (column 1, lines 9-12).

Regarding **claim 4**, Reynar in view of Haddock and Thrasher, as applied to claim 2 above, disclose the ASR method, but lacks wherein the automatic speech recognition process is performed again if the confidence score is less than the predetermined value.

Waibel discloses the ASR method wherein the automatic speech recognition process is performed again if the confidence score is less than the predetermined value (until the score is above the threshold; column 1, lines 56-59), to avoid incorrect recognition.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in combination with Haddock and Thrasher's method invention wherein the automatic speech recognition process is performed again if the confidence score is less than the predetermined value as in Waibel, to repair misrecognition of speech (column 1, lines 9-12).

8. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynar in view of Haddock, as applied to claim 1 above, and in further view of Morin et al. (USPN 6,411,927), hereinafter referenced as Morin.



Regarding **claim 5**, Reynar in view of Haddock disclose the ASR method, but lacks wherein the rescoring is performed after a speech recognition model has been compensated to reflect acoustic environmental data transducer data.

Morin discloses the ASR method wherein the rescoring is performed after a speech recognition model (speech models; column 2, lines 1-10) has been compensated (figure 1, element 15) to reflect acoustic environmental data and transducer data (figure 1 with take into account the microphone and its associated acoustic environment; column 3, lines 28-35), for signal equalization.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in view of Haddock's method wherein the rescoring is performed after a speech recognition model has been compensated to reflect acoustic environmental data and transducer data as in Morin, to obtain signal equalization for normalizing a time domain source signal to a target environment (column 1, lines 7-12).

9. *Alternately* **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynar in view of Haddock, as applied to claim 1 above, and in further view of Flanagan et al. (USPN 5,737,485), hereinafter referenced as Flanagan.

Regarding **claim 5**, Reynar in view of Haddock disclose the ASR method, but lacks wherein the rescoring is performed after a speech recognition model has been compensated to reflect acoustic environmental data transducer data.

Flanagan discloses the ASR method wherein the rescoring is performed after a speech recognition model (speech recognition) has been compensated to reflect acoustic environmental data (compensate for environmental variations) and transducer data (microphone; figure 1 with column 3, line 47 – column 4, line 4 and column 6, line 56 – column 7, line 6), to produce high “hands-free” identification scores.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in view of Haddock’s method wherein the rescoring is performed after a speech recognition model has been compensated to reflect acoustic environmental data and transducer data as in Flanagan, to produce high “hands-free” identification scores, even under hostile condition of reverberation, and low SCNR’s caused by interfering noise.

10. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynar in view of Haddock, as applied to claim 1 above, and in further view of L'Esperance et al. (U.S. Publication No. 2002/0055844), hereinafter referenced as L'Esperance.

Regarding **claim 5**, Reynar in view of Haddock disclose the ASR method, but lacks wherein the rescoring is performed after a speech recognition model has been compensated to reflect acoustic environmental data transducer data.

L'Esperance discloses the ASR method wherein the rescoring (obtains a score for each model) is performed after a speech recognition model (speech recognition) has been compensated to reflect acoustic environmental data (various acoustic environments) and transducer data (figure 1 with column 3, paragraphs 0037-0041 and column 1, paragraph 0013), to provide essentially the same level of accuracy.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in view of Haddock's method wherein the rescoring is performed after a speech recognition model has been compensated to reflect acoustic environmental data and transducer data as in L'Esperance, to train models to operate in different situations/circumstances (column 3, paragraph 0038).

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11. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynar in view of Haddock, as applied to claim 8 above, and in further view of Pan et al. (U.S. Patent No. 6,304,844), hereinafter referenced as Pan.

Regarding **claim 10**, Reynar in view of Haddock disclose the ASR method, but lacks wherein the speech utterances are received from a personal digital assistant (PDA).

Pan discloses the ASR method wherein the speech utterances are received from a personal digital assistant (column 12, lines 47-50 and column 13, lines 1-13), to avoid redesign or reprogramming of the DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Reynar in view of Haddock's method wherein the speech utterances are received from a PDA as in Pan, thus allowing easy, quick, and inexpensive integration, avoiding redesign or reprogramming of the DSP.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Be Bellis (USPN 6,760,720) discloses a search-on-the-fly/sort-on-the-fly search engine for searching databases.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571.272.7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ  
August 20, 2006

  
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